Appendix Table 4. Preliminary strip yield response to liquid swine manure application from each demonstration site, 2000.

2000 Swine Manure Nutrient Utilization Project - CORN Field Sites

Summary of Preliminary "Yield & Related Measures" Data from Replicated Manure Strips

Field sites listed alphabetically by county name.

LSNT values offer a soil sample-based estimate of plant-available soil NO_3^--N in the top foot of soil when corn is 6 to 12 inches tall.

SPAD chlorophyll meter readings measure relative "ear leaf" greenness near R1 corn growth stage. Larger values = greener leaves.

CLAY County

(Spencer, IA) "CORN after SB" field site — FIRST- year manure test — Soil type: Marcus

Desired Application Rates	Pre-Sample Based Manure Application Rate	Estimated Total Nutrients Applied in Manure			Strip Average		
		N	P_2O_5	K_2O	Corn Yield	LSNT	R1 SPAD
	(gallons/acre)	- - - - - (lb/acre) - - - - -			(bu/acre)	(ppm)	
0 lb Total N/acre (Check)	No manure	0	0	0	125	6	43
	"Residual"	- -	- -	- -	149	9	50
75 lb Total N/acre (Low)	1,300	77	46	38	156	13	52
150 lb Total N/acre (High)	2,600	154	91	77	178	26	56

Nutrient analysis of manure pre-sample (lb/1000 gallons): 58 lb Total N

Nutrient analysis of field-applied manure sample (lb/1000 gallons): 64 lb Total N - 38 lb Total P_2O_5 - 32 lb Total K_2O

Manure surface-broadcast April 26, 2000 and field cultivator-inc. next day.

"Residual" strip: 350 lb total N - 255 lb total P_2O_5 - 155 lb total K_2O applied as swine manure prior to 1999 soybean crop.

Strip point initial soil test values - Bray-1 P: 34 - 50 ppm; K: 196 - 259 ppm

102-day corn hybrid planted April 28, 2000 (30-inch rows).

HARDIN County

(Buckeye, IA) "CORN after SB" field site — FIRST- year manure test — Soil type: Clarion

Desired Application Rates	Pre-Sample Based Manure Application Rate	Estimated Total Nutrients Applied in Manure			Strip Average		
		N	P_2O_5	K_2O	Corn Yield	LSNT	R1 SPAD
	(gallons/acre)	- - - - - (lb/acre) - - - - -			(bu/acre)	(ppm)	
0 lb Total N/acre (Check)	No manure	0	0	0	144	22	57
100 lb Total P_2O_5/acre (Low)	1,923	82	100	81	144	29	61
150 lb Total N/acre (High)	4,541	193	236	191	145	29	62

Nutrient analysis of manure pre-sample (lb/1000 gallons): 42.5 lb Total N - 52 lb Total P_2O_5 - 42 lb Total K_2O

Nutrient analysis of field-applied manure sample (lb/1000 gallons): 42.5 lb Total N - 52 lb Total P_2O_5 - 42 lb Total K_2O

Manure injected March 30, 2000.

Strip point initial soil test values - Bray-1 P: 108 - 156 ppm; K: 219 - 357 ppm

Corn planted April 25, 2000 (30-inch rows).

PLYMOUTH County

(LeMars, IA) "CORN after SB" field site — FIRST- year manure test — Soil type: Galva

Desired Application Rates	Pre-Sample Based Manure Application Rate	Estimated Total Nutrients Applied in Manure			Strip Average		
		N	P_2O_5	K_2O	Corn Yield	LSNT	R1 SPAD
	(gallons/acre)	- - - - - (lb/acre) - - - - -			(bu/acre)	(ppm)	
0 lb Total N/acre (Check)	No manure	0	0	0	99	19	59
75 lb Total N/acre (Low)	3,900	308	199	164	110	42	62
150 lb Total N/acre (High)	6,660	526	340	280	99	60	61

Nutrient analysis of manure pre-sample (lb/1000 gallons): 71 lb Total N

Nutrient analysis of field-applied manure sample (lb/1000 gallons): 79 lb Total N - 51 lb Total P_2O_5 - 42 lb Total K_2O

Manure injected March 29, 2000.

Strip point initial soil test values - Bray-1 P: 16 - 96 ppm; K: 181 - 289 ppm

108-day corn hybrid planted April 26, 2000 (38-inch rows).

Appendix Table 4 continued. Preliminary strip yield response to liquid swine manure application from each demonstration site, 2000.

2000 Swine Manure Nutrient Utilization Project - CORN Field Sites

Summary of Preliminary "Yield & Related Measures" Data from Replicated Manure Strips

Field sites listed alphabetically by county name.

LSNT values offer a soil sample-based estimate of plant-available soil NO_3^--N in the top foot of soil when corn is 6 to 12 inches tall.

SPAD chlorophyll meter readings measure relative "ear leaf" greenness near R1 corn growth stage. Larger values = greener leaves.

WASHINGTON County

(West Chester, IA) "CORN after SB" field site — FIRST- year manure test — Soil type: Mahaska

Desired Application Rates	Pre-Sample Based Manure Application Rate	Estimated Total Nutrients Applied in Manure			Strip Average		
		N	P_2O_5	K_2O	Corn Yield	LSNT	R1 SPAD
	(gallons/acre)	----- (lb/acre) -----			(bu/acre)	(ppm)	
0 lb Total N/acre (Check)	No manure	0	0	0	136	10	- -
140 lb Total N/acre fall-applied anhydrous NH_3		- -	- -	- -	152	26	- -
200 lb Total N/acre manure	4,000	216	188	180	165	30	- -

Nutrient analysis of manure pre-sample (lb/1000 gallons): 50 lb Total N

Nutrient analysis of field-applied manure sample (lb/1000 gallons): 54 lb Total N - 47 lb Total P_2O_5 - 45 lb Total K_2O

Manure injected and anhydrous NH_3 applied November 1999.

Strip point initial soil test values - Bray-1 P: "Very High"; K: "High"

113-day corn hybrid planted April 2000 (30-inch rows).

WEBSTER County

(Fort Dodge, IA) "CORN after SB" field site — FIRST- year manure test — Soil types: Webster & Nicollet

Desired Application Rates	Pre-Sample Based Manure Application Rate	Estimated Total Nutrients Applied in Manure			Strip Average		
		N	P_2O_5	K_2O	Corn Yield	LSNT	R1 SPAD
	(gallons/acre)	----- (lb/acre) -----			(bu/acre)	(ppm)	
0 lb Total N/acre (Check)	No manure	0	0	0	122	9	49
75 lb Total N/acre (Low)	1,200	70	48	43	139	15	54
150 lb Total N/acre (High)	2,400	139	96	86	142	20	55

Nutrient analysis of manure pre-sample (lb/1000 gallons): 64 lb Total N

Nutrient analysis of field-applied manure sample (lb/1000 gallons): 58 lb Total N - 40 lb Total P_2O_5 - 36 lb Total K_2O

Manure injected April 24, 2000.

Strip point initial soil test values - Bray-1 P: 10 - 43 ppm; K: 108 - 172 ppm

110-day corn hybrid planted May 22, 2000 (30-inch rows).

Appendix Table 4 continued. Preliminary strip yield response to liquid swine manure application from each demonstration site, 2000.

2000 Swine Manure Nutrient Utilization Project - SOYBEAN Field Sites

Summary of Preliminary Weigh Wagon/Yield Monitor Yield Data from Replicated Manure Strips

Field sites listed alphabetically by county name.

CLAY County

(Spencer, IA) "SB after CORN" field site — FIRST- year manure test — Soil type: Marcus

Desired Application Rates	Pre-Sample Based Manure Application Rate	Estimated Total Nutrients Applied in Manure N	P_2O_5	K_2O	Strip Average Soybean Yield
	(gallons/acre)	- - - - - (lb/acre) - - - - -			(bu/acre)
0 lb Total N/acre (Check)	No manure	0	0	0	48
100 lb Total N/acre (Low)	1,700	114	73	54	49
200 lb Total N/acre (High)	3,400	228	146	109	50

Nutrient analysis of manure pre-sample (lb/1000 gallons): 58 lb Total N

Nutrient analysis of field-applied manure sample (lb/1000 gallons): 67 lb Total N - 43 lb Total P_2O_5 - 32 lb Total K_2O

Manure surface-broadcast April 26, 2000 and field cultivator-inc. next day.

Strip point initial soil test values - Bray-1 P: 19 - 42 ppm; K: 178 - 215 ppm

Early Group II RR soybean variety planted May 23, 2000 (30-inch rows).

HARDIN County

(Buckeye, IA) "SB after CORN" field site — FIRST- year manure test — Soil type: Clarion

Desired Application Rates	Pre-Sample Based Manure Application Rate	Estimated Total Nutrients Applied in Manure N	P_2O_5	K_2O	Strip Average Soybean Yield
	(gallons/acre)	- - - - - (lb/acre) - - - - -			(bu/acre)
0 lb Total N/acre (Check)	No manure	0	0	0	56
40 lb Total P_2O_5/acre (Low)	1,420	62	41	43	57
100 lb Total P_2O_5/acre (Med.)	1,923	83	100	81	57
192 lb Total N/acre (High)	4,465	192	232	188	56

Nutrient analysis of manure pre-sample (lb/1000 gallons):

Manure source for "Low" rate: 35 lb Total N - 28 lb Total P_2O_5 - 32 lb Total K_2O

Manure source for "Med/High" rates: 43 lb Total N - 52 lb Total P_2O_5 - 42 lb Total K_2O

Nutrient analysis of field-appl. manure sample (lb/1000 gallons):

Manure source for "Low" rate: 44 lb Total N - 29 lb Total P_2O_5 - 30 lb Total K_2O

Manure source for "Med/High" rates: 43 lb Total N - 52 lb Total P_2O_5 - 42 lb Total K_2O

Manure injected April 4, 2000.

Strip point initial soil test values - Bray-1 P: 72 - 176 ppm; K: 148 - 310 ppm

Soybeans planted April 30, 2000 (30-inch rows).

WEBSTER County

(Fort Dodge, IA) "SB after CORN" field site — FIRST- year manure test — Soil type: Webster & Nicollet

Desired Application Rates	Pre-Sample Based Manure Application Rate	Estimated Total Nutrients Applied in Manure N	P_2O_5	K_2O	Strip Average Soybean Yield
	(gallons/acre)	- - - - - (lb/acre) - - - - -			(bu/acre)
0 lb Total N/acre (Check)	No manure	0	0	0	42
100 lb Total N/acre (Low)	1,600	91	58	59	43
200 lb Total N/acre (High)	3,200	182	115	118	45

Nutrient analysis of manure pre-sample (lb/1000 gallons): 64 lb Total N

Nutrient analysis of field-applied manure sample (lb/1000 gallons): 71 lb Total N - 54 lb Total P_2O_5 - 39 lb Total K_2O

Manure injected April 24, 2000.

Strip point initial soil test values - Bray-1 P: 18 - 58 ppm; K: 150 - 232 ppm

Mid-Group II RR soybean variety planted May 1, 2000 (30-inch rows).